

United States Patent [19]

Ishihara et al.

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[54] LASER BEAM TREATMENT DEVICE FOR AN ENDOSCOPE

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ABSTRACT

[22] Filed: Nov. 18, 1988

A laser beam irradiation apparatus comprising a laser generating device, a laser beam irradiation probe for applying a laser beam from the laser generating device to a region of an object of irradiation, an ultrasonic transmitter/receiver for emitting ultrasonic waves toward the region to which the laser beam is applied by the probe, receiving reflected waves from the irradiated region, and converting the reflected waves into an electrical signal, a measuring device for measuring the temperature of the irradiated region in accordance with the electrical signal from the ultrasonic transmitter/receiver, and an output adjuster for adjusting the output of the laser generating device in accordance with a temperature signal from the measuring device.

[30] Foreign Application Priority Data

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[51] Int. Cl.⁵ A61B 17/36

[52] U.S. Cl. 606/12; 606/15

[58] Field of Search 128/6, 303.1, 395-398, 128/660.02, 660.03, 662.06, 736; 606/12, 15

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9 Claims, 5 Drawing Sheets

